

Paraphelonus
Aphelinus speciosissimus Girault.

From eggs of *Xiphidium* (?), Richmond, Indiana, W. J. Phillips, 1906.

Aphelinus subapterus new species.

♂. Length, 0.75 mm.; short. Black and scaly, the tips of the tibiae, tarsi and the funicle and club dull yellow. Fore wings very small, only somewhat longer than wide, smoky, with a hyaline cross-stripe at the bend of the submarginal vein, naked, the marginal vein bearing three long bristles, the apex of the wing's blade squarely truncate. Second tooth of mandible truncate. Funicles 1-2 subequal, each a half wider than long, 3 a half longer than wide, longer than the preceding two joints taken together but not half the length of the club, subequal to the pedicel. Scape long and slender. Strigil present. With the generic characters except the wings.

Described from three males labelled *Baocharis marlatti* Ashmead, Riley County, Kansas, May (Marlatt).

Type: Catalogue No. 20226, United States National Museum, two of the specimens in fragments on a slide, a third on a tag.

**New Species of Buprestidae (Col.) from the
Pacific States,**

With Notes Concerning a Few Others.

By EDWIN C. VAN DYKE, University of California, Berkeley,
California.

Of the four insects described below, three have been known to me for a long time, while the fourth was found among a series of Buprestidae collected by Mr. W. J. Chamberlin, in Oregon. The *Anthaxia* bears no close relationship to any of our other Pacific species, but superficially resembles certain forms of *A. quercata* Fab., and may have been what Dr. Horn referred to when he spoke of specimens of that being found in California.¹ It, however, differs entirely as regards its tarsal claws from that species.

The first two species of *Chrysobothris* described are an addition to that large series of species which superficially closely

¹Revision of the species of some genera of Buprestidae, by George H. Horn, M.D., Trans. Am. Ent. Soc., Vol. x (1882), p. 111.

resemble each other and are so characteristic of the coniferous forests of the western part of our country. They all fall into Dr. Horn's group IV.² As regards certain of the species placed in this group, some mistakes were made because of the lack of sufficient material and data. Later, some of these were corrected and the status of a number more definitely outlined in a paper by Mr. H. C. Fall.³ The two species described by me and mentioned above have, no doubt, if known, always been placed with *C. carinipennis* Lec. Having good series of all three in my hands, I found that I could quite readily separate them and I hope that I have been able to bring out the differentiating points so that others may do likewise.

***Anthaxia sublaevis* n. sp.**

Oblong, moderately depressed; bluish black, beneath slightly greenish, front of head and sides of pronotum somewhat cupreous; front slightly depressed at middle, surface reticulate and clothed with a sparse short silky white pubescence, clypeus slightly projecting and shallowly and broadly incised with a V-shaped incision; prothorax slightly less than twice as wide as long, broader at middle than elytra, sides feebly and regularly arcuate, posterior angles obtuse, disc slightly convex, a slight depression on each side just anterior to basal angles, surface finely reticulate; elytra with sides parallel to posterior third, thence convergent and with slight sinuation to apex, the apices rather broadly and individually rounded and very finely serrate. Surface somewhat shining and with reticulations so planed down that surface is fairly smooth; body beneath more shining than above, the thorax reticulate, the abdomen quite smooth, claws slender and but slightly broader at base. Length, 4 mm.; breadth, 1.25 mm.

This species somewhat resembles and is perhaps closest to *A. viridifrons* Lap., but it is proportionately shorter, smoother, with the apical portion of the elytra more definitely sinuate, and with the clypeus much more broadly and shallowly incised.

My series consists of nine specimens, eight from Tuolumne County, California, collected June 14, 1914, by F. W. Nunenmacher, and one from Shasta County, California, collected

²A monograph of the species of *Chrysobothris* inhabiting the United States, by George H. Horn, M.D., Trans. Am. Ent. Soc., Vol. xiii (1886), p. 84.

³On *Chrysobothris californica* and allies, by H. C. Fall, Journ. N. Y. Ent. Soc., Vol. xviii, No. 1, Mch., 1910, pp. 45-52.

many years ago by myself. There is practically no variation.

The type male and female, Tuolumne County, California, June 14, 1914, in my own collection, one paratype deposited with United States National Museum and another with California Academy of Sciences.

***Chrysobothris pseudotsugae* n. sp.**

Form nearly that of *femorata*, sub-depressed with aeneous surface lustre, the punctured spaces of the elytra a greenish bronze, body beneath, legs, antennae, and front a brilliant green; antennae gradually more slender to tip, third joint as long as the next two, front flat with two callosities between eyes, clypeus rather broadly and semicircularly emarginate; thorax with length two-thirds of breadth, sides almost parallel for middle two-thirds, slightly convergent near posterior angles and more convergent and rounded in front, disc moderately convex, a rather shallow though well defined median sulcus densely punctured, an irregular elevation on each side, broader and distinctly defined in anterior half, narrower and ill defined posteriorly, a barely perceptible parallel elevation between this and sides with anterior and posterior portions slightly defined as callosities, the surface otherwise densely and coarsely punctured.

Elytra well rounded at humeri, parallel for middle two-thirds, thence slightly arcuate and convergent to individually rounded and serrate hind angles, disc slightly convex, the sutural costa well defined, broader and flatter in front, narrower and cariniform posteriorly and from middle to apex slightly but perceptibly diverging from suture; the second costa beginning near base in a broad and flat callosity, then interrupted but just anterior to middle continued again but as a narrow elevation to near apex, the third and fourth costae forming irregular and oblique zig-zag elevations; all costae joined by certain irregular flat and transverse elevations, especially in posterior half, depressions all coarsely and densely punctured.

Body beneath smooth and shining, sparsely and coarsely punctate on thorax and sparsely and finely on abdomen, prosternum not lobed in front. Anterior femora with a broad and obtuse tooth, feebly serrate on its outer edge; last ventral with its margin serrulate. Length, 11 mm.; breadth, 4.25 mm.

♂. Prosternum not densely punctured and sparsely pubescent; anterior tibia arcuate, rather abruptly dilated at tip, the dilatation being a lamina arising from the posterior side about one-fourth distance from apex and forming an elongated trapezium; middle tibia less arcuate, gradually broader from apical third to tip, the posterior tibia straight; last ventral segment broadly semi-circularly emarginate, the last dorsal sparsely punctate with a triangular emargination.

♀. Prosternum more coarsely and more densely punctured; anterior tibia moderately arcuate, gradually wider to tip, the middle less arcuate and gradually wider to apex, the posterior straight; last ventral longer than in male and with a shallow semi-circular emargination; last dorsal more punctuate than in the male and with a small apical notch; the sides of the ventral segments, the tibia, and the front quite cupreous.

This species is probably most closely related to *C. carinipennis* Lec., but it has a decidedly different facies, being less elongate and with the elevated sculpturings of the elytra much



Outline drawings of anterior tibia of males of *Chrysobothris*: 1, *pseudotsugae*; 2, *carinipennis*; 3, *laricis*.

broader and coarser. In *C. carinipennis* Lec. the tibial dilatation in the male is always distinctly longer than broad, at least twice, while in this species it is somewhat less than twice.

My series of twenty-five mounted specimens represents material mainly collected by myself at Carrville, Trinity County, California, June 30, 1913, on Douglas fir, *Pseudotsuga taxifolia* Britt., and from near Fallen Leaf Lake, Lake Tahoe, California, June 2, 1915, on white fir, *Abies concolor* Lindl. & Gord. I have also seen a fair series in the collection of Mr. Ralph Hopping. The species is apparently moderately abundant in Northern California and the Northern Sierras about the trees mentioned, and, no doubt, extends much farther north. It apparently is one of the species which replaces *C. carinipennis* Lec. west of the Cascades and Sierras, the other seeming to be restricted to the Rockies and the northern portion of the Great Basin. Most of the specimens examined are quite constant as to size and their characters, but they

often vary considerably as shown by the fact that I have two females from my first mentioned locality which are very much larger in every way than typical forms, one 13 mm. long and 6 mm. broad, the other 15 mm. long and 7.5 mm. broad.

Type male and female from Carrville, Trinity County, California, June 30, 1913, in my own collection, paratypes deposited in United States National Museum, California Academy of Sciences, and Academy of Natural Sciences of Philadelphia.

***Chrysobothris laricis* n. sp.**

Form and superficial appearance nearly that of *femorata*, sub-depressed, piceous, with aeneous surface lustre, the punctured spaces of the elytra cupreous, body beneath, legs, antennae, and front metallic green passing in places into cupreous; antennae gradually more slender to tip, third joint almost as long as the next two; front flat with two oblique converging callosities between eyes; clypeus rather broadly and slightly angulately emarginate; thorax with length two-thirds of breadth, broadest in front of middle, sides almost straight for middle two-thirds and slightly convergent posteriorly, more acutely near posterior angles, and slightly rounded in front; disc moderately convex, a rather shallow and poorly defined median sulcus densely punctured, the lateral boundaries forming slight callosities only anteriorly, a secondary elevation barely perceptible between this and sides and without callosities, a well defined depression anteriorly near margin, the surface coarsely and densely punctured.

Elytra well rounded at humeri, gradually and but slightly arcuately widening to posterior two-thirds, thence slightly arcuate and convergent to individually rounded and serrate hind angles; disc slightly convex, the sutural costa poorly defined anteriorly but well marked for posterior three-fourths and from middle backwards at first gradually diverging from suture then more widely and arcuately separating and toward apex rather suddenly approaching again; the second and third costae irregular, somewhat flattened in places and interrupted, the fourth narrow, moderately well defined and near margin, all costae more or less joined by various short cross bands, two well defined slightly oblique and irregular transverse depressions, one slightly in front of middle and the other midway between this and apex, simulating closely those so generally seen in *Chrysobothris femorata* Fab.; all depressions coarsely and densely punctured.

Body beneath shining, densely punctured and pubescent on thorax, more sparsely punctured on the abdomen, prosternum not lobed in front. Anterior femora with a broad and obtuse tooth, feebly serrate on its outer edge; last ventral with its margin serrulate. Length, 11 mm., breadth, 4.5 mm.

♂. Prosternum densely and finely punctured and rather densely pubescent;; anterior tibia arcuate, somewhat suddenly constricted at junction of middle with outer third, then abruptly dilated, the dilatation being a lamina arising from the posterior side which forms an arcuate enlargement that is distinctly constricted apically; middle tibia less arcuate, gradually broader to tip, the posterior tibia straight; last ventral segment broadly semi-circularly emarginate, the last dorsal sparsely punctate at middle, more densely at sides and with a triangular emargination.

♀. Prosternum more coarsely and sparsely punctured and sparsely pubescent; anterior tibia moderately arcuate, gradually wider to tip, the middle almost straight and slightly wider toward tip, the posterior straight; last ventral longer than in male and with a small semi-circular emargination, last dorsal more punctate at middle than in the male and with a small apical notch; the under surface, head, antennae, and legs being more cupreous than in the male.

This species superficially has the facies of *C. femorata* Fab. and because of the greenish under surface and head, especially in the male, might be confused with *C. carinipennis* Lec. and *C. pseudotsugae*. It, however, differs from the latter two as regards the prosternal characters of the male as well as the type of tibial dilatation. Among the Pacific species, it would, according to its characters, come closest to *C. sylvania* Fall, but it has quite a different facies and besides has a different type of male tibial dilatation. In fact the only western species which has the same type of male tibial dilatation is *C. caurina* Horn, a species which belongs in the series possessing a lobed prosternum.

My series contains eleven specimens, nine collected on the western larch, *Larix occidentalis* Nutt., and one on the lodge pole pine, *Pinus contorta* var. *murrayana* Balf., in Grant County, Oregon, during various days in July, 1914, by Mr. W. J. Chamberlin, and one collected by Mr. E. P. Van Duzee at Angora Lake, near Lake Tahoe, California, July 7, 1915, presumably on the lodge pole pine. I have also examined another and even greater series of specimens collected by Mr. Chamberlin which is now at the Oregon Agricultural College. This species seems to belong in the northern part of the Great Basin and normally on the larch and lodge pole pine, and to

have followed the last in its distribution down through the high altitudes of the Cascades and Sierras. The specimens examined are also quite constant as to size and characters.

Type male and female from Grant County, Oregon, July 22 and 23; 1914, in my own collection, paratypes deposited in United States National Museum, California Academy of Sciences and Academy of Natural Sciences of Philadelphia.

***Chrysobothris mali* var. *lineatipennis* n. subsp.**

The more typical form of *C. mali* Horn which ranges throughout the Pacific States, though to a certain degree variable as are all of the species of the genus, still preserves a general facies and constancy of characters which enables it to be readily recognized. In the essential characters such as the slightly lobed prosternum, the usual feebly developed median sulcus of the pronotum, the disc without defined callosities, and the form of tibial dilatation in the male, this subspecies resembles it. It, however, differs in being generally smaller, 7 mm. in length as against the usual 8 or 9 mm., in being narrower and more parallel, more brilliantly cupreous and shining, with the head and pronotum excessively brilliant and contrasting with the elytra, as against a duller bronze and more uniform coloration, in the upper surface being without the usual sparse pubescence, in having all of the elytral costae more definitely elevated and defined, the second and third only slightly interrupted, in having the clypeal excavation more acute and with the sides not rounded externally, the anterior femoral tooth more acute, and the anterior tibial dilatation of the male but slightly developed as against the well developed dilatation in typical forms.

This insect I have for some time been considering as a distinct species, but upon further study find that I cannot consider it as anything more than a well marked and somewhat local subspecies. Its brilliancy, lack of pubescence, and costate elytra will enable it to be readily separated from the typical form.

Four specimens, a male and three females, in my own collection, collected in 1887 in the Santa Monica hills near Santa Monica, California, critically examined. Several others have been seen.

Type male and paratype in my own collection.

***Chrysobothris cyanella* Horn.**

A good series of this beetle collected under the same conditions and in the same locality, the Kings River, in the South-

ern Sierras, shows that it varies in color from a brilliant blue green through bronze green to cupreous. In the middle Sierras and north, it is more apt to be of a bluish green and somewhat constant. It is generally to be found in the flowers of a species of wild white buckwheat, *Eriogonum*.

Chrysobothris dentipes Germ.

This species Dr. Horn had not seen from California. It is, however, very common in the northern counties of the State where it may be seen about the dead trunks and larger limbs of the western yellow pine, *Pinus ponderosa* Dougl.

Chrysobothris silvania Fall.

This species, first found by L. E. Ricksecker in northern Sonoma County, has been since found by F. W. Nunenmacher in Del Norte County, California, and by J. C. Bridwell and W. J. Chamberlin on Mt. Jefferson, Oregon.

New North American Gall Midges (Dipt.)

By E. P. FELT, Albany, New York.

This paper includes descriptions of recently characterized forms, one of the most interesting being the *Retinodiplosis* reared from the cones of Bald Cypress. In this connection it appears desirable to place on record, the capture by Dr. W. L. McAtee, April 12, 1914, on Plummer's Island, Maryland, of additional specimens of *Neocatocha marilandica* Felt, a species first taken by this collector in the same locality almost exactly seven years earlier. The female has been described and the male is still unknown.

Asynapta marilandica n. sp.

The species described below runs in our key to *A. cerasi* Felt, from which it may be easily separated by the pulvilli being distinctly shorter than the claws. The male was received from Dr. E. W. Nelson, labeled Plummer's Island, Maryland, August 17, 1912, Dr. W. L. McAtee, collector.

♂. Length 1.5 mm. Antennae longer than the body, thickly long-haired, yellowish brown; 23 segments, the fifth with a stem three-fourths the length of the subcylindric basal enlargement, which latter has a length about one-half greater than its diameter; terminal seg-